

## **Project KEWL**

### **Kinect Engineering With Learning**

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Project KEWL is a joint project between NASA/JPL and NASA/JSC to stimulate interest of children in Science, Technology, Engineering and Math (STEM) and bring the NASA space exploration experience to the classroom, museum and ultimately the living room. Using the Kinect game controller KEWL allows children to engage in NASA's missions in a fundamentally new way. KEWL allows children to experiment with gravity on Mars and the Moon; navigate through the International Space Station; fix a torn solar array on the ISS; drive a robot on Mars; visit an Asteroid; learn about the differences in gravity on different planets and control Robonaut 2 using their body as the input device.

Project KEWL complements NASA's outreach investments in television, mobile platforms and the web by engaging the public through the rapidly expanding medium of console gaming. In 2008, 97% of teenagers played video games and 86% played on a home gaming console. (source: <http://pewresearch.org/pubs/953/>) As of March 2011, there have been more than 10 million Kinects sold. (source: <http://www.itproportal.com/2011/03/10/kinect-record-breaking-sales-figures-top-10-million/>) Project KEWL interacts with children on a platform on which they spend much of their time and teaches them information about NASA while they are having fun.

Project KEWL progressed from completely custom C++ code written in house to using a commercial game engine. The art work and 3D geometry models come from existing engineering work or are created by the KEWL development team. Six different KEWL applications have been demonstrated at nine different venues including schools, museums, conferences, and NASA outreach events. These demonstrations have allowed the developers the chance to interact with players and observe the gameplay mechanics in action. The lessons learned were then incorporated into the subsequent versions of the applications.